

IN THE CLAIMS:

Please cancel claims 17-25 as follows:

1. (Original) A method for manufacturing a three-phase transformer, the method comprising the steps of:
  - i. producing two substantially plate-like elements of a magnetic circuit of the transformer in the form of toroids by winding at least one magnetic strip;
  - ii. producing each of three column-like elementary circuits of said magnetic circuit in the form of toroid of a multi-layer structure by winding predetermined number  $N$  of packages of magnetic strips about a central axis of the toroid, each package being composed of a predetermined number  $n$  of layers formed by  $n$  strips placed on top of each other;
  - iii. forming each of the columns with a radial slot filled with an insulating material;
  - iv. mounting a coil block on each of the columns obtained in step (iii) to form the corresponding one of the three phases of the transformer;
  - v. mounting the coil blocks carrying columns between the plate-like elements in a spaced-apart parallel relationship of the column-like toroids, such as to form a spatial symmetrical structure about a central axis of the transformer, spacers between the elements of the magnetic circuit of the transformer being filled with a material containing a magnetic powder.

2. (Original) The method according to Claim 1, wherein the magnetic strips are made of an amorphous material.

3. (Original) The method according to Claim 2, and also comprising the steps of:

- annealing each of the plate-like toroids in a magnetic field directed perpendicular to a central axis of the plate-like toroid, and carrying out impregnation of each of the annealed plate-like toroids with an organic binding material;

- prior to performing step (iii) annealing each of the three columns in a magnetic field directed along the central axis of the column, and carrying out impregnation of each of the annealed columns with an organic binding material;

4. (Original) The method according to Claim 1, wherein said strips are made of silicon steel.

5. (Original) The method according to Claim 1, wherein the  $N$  packages are aligned along said central axis of the toroid with air gaps existing between each two adjacent strips, the  $n$  strips being placed on top of each other and being aligned along an axis perpendicular to said central axis, the strips in the package being shifted with respect to each other a predetermined distance in a direction along said central axis of the toroid such that each of the air gaps is overlapped by  $(n-1)$  strips aligned along the axis perpendicular to the central axis of the toroid.

6. (Original) The method according to Claim 5, wherein the number  $N$  of packages is defined by a width of the strip and a desired length of the toroid, such that the sum of the widths of the  $N$  strips in each layer is substantially equal to the length of the toroid, and the number  $n$  of the strips in the package is selected in accordance with the magnetic properties of the strips.

7. (Original) The method according to Claim 6, wherein the number  $n$  of the layers satisfies the following relation:  $n \geq B_w / (B_{sat} - B_w)$ , wherein  $n$  is integer,  $B_w$  is a working value of a magnetic induction, and  $B_{sat}$  is a saturation value of the magnetic induction in the strip.

8. (Original) The method according to Claim 6, wherein the winding of the multi-layer structure comprises the steps of :

- preparing each of the  $n$  layers from the  $N$  strips with the air gaps existing between each two adjacent strips in the layer; and
- simultaneously winding said  $n$  layers about a central axis of a mandrel supporting the toroid during the manufacture, by simultaneously feeding the  $N$  strips of each layer, such that the layers are shifted with respect to each other said predetermined distance in the direction along said central axis, each of the air gaps in one layer being thereby overlapped by  $(n-1)$  strips of the other layers of the structure.

9. (Original) The method according to Claim 8, wherein the preparation of each of the layers comprises winding the  $N$  strips on a bobbin such that the sum of the width of the strips is substantially equal to said desired height, the bobbins being aligned in a spaced-apart parallel relationship, such that the layers on the bobbins are shifted with respect to each other said predetermined distance in the direction along the axis of the bobbin.

10. (Original) The method according to Claim 1, wherein each of the column-like toroids is produced by mounting several toroidal elements on top of each other, each of said toroidal elements being produced by the winding of the strips.

11. (Original) The method according to Claim 1, wherein each of the plate-like toroids is a multi-layer structure produced by the winding of a predetermined number of packages of the magnetic strips about a central axis of the plate-like toroid, the packages being aligned along said central axis with air gaps existing between each two adjacent strips, each package being composed of a predetermined number  $n$  of layers formed by  $n$  magnetic strips placed on top of each other and being aligned along an axis perpendicular to said central axis, the strips in the package being shifted with respect to each other a predetermined distance in a direction along said central axis of the toroid such that each of the air gaps is covered by  $(n-1)$  strips aligned along the axis perpendicular to the central axis of the toroid.

12. (Original) The method according to Claim 11, wherein the number of packages is defined by a width of the strip and a desired length of the plate-like toroid, such

that the sum of the widths of the strips in each layer, which is equal to the number of packages, is substantially equal to the length of the toroid, and the number  $n$  of the strips in the package is selected in accordance with the magnetic properties of the strips.

13. (Original) The method according to Claim 12, wherein the number  $n$  of the layers satisfies the following relation:  $n \geq B_w / (B_{sat} - B_w)$ , wherein  $n$  is integer,  $B_w$  is a working value of a magnetic induction, and  $B_{sat}$  is a saturation value of the magnetic induction in the strip.

14. (Original) The method according to Claim 12, wherein the winding of the multi-layer structure comprises the steps of :

- preparing each of the  $n$  layers from the number of strips equal to the number of packages, with the air gaps existing between each two adjacent strips in the layer; and
- simultaneously winding said  $n$  layers about a central axis of a mandrel supporting the toroid during the manufacture, by simultaneously feeding the strips of each layer, such that the layers are shifted with respect to each other said predetermined distance in the direction along said central axis, each of the air gaps in one layer being thereby overlapped by  $(n-1)$  strips of the other layers of the structure.

15. (Original) The method according to Claim 14, wherein the preparation of each of the layers comprises winding the strips of the layer on a bobbin such that the sum of the width of the strips is substantially equal to said desired height of the plate-like strip, the bobbins

being aligned in a spaced-apart parallel relationship, such that the layers on the bobbins are shifted with respect to each other said predetermined distance in the direction along the axis of the bobbin.

**16. (Original)** A three-phase transformer manufactured by the method of Claim 1.

**17. (Cancelled)**

**18. (Cancelled)**

**19. (Cancelled)**

**20. (Cancelled)**

**21. (Cancelled)**

**22. (Cancelled)**

**23. (Cancelled)**

**24. (Cancelled)**

**25. (Cancelled)**